

ABSTRACT OF THE DISCLOSURE

Tn5 transposase (Tnp) mutants that have higher transposase activities than the wild-type Tnp are disclosed. The Tn5 Tnp mutants differ from the wild-type Tnp at amino acid positions 54, 242, and 372 and have greater avidity than the wild-type Tnp for at least one of a wild-type Tn5 outside end sequence as defined by SEQ ID NO:3 and a modified Tn5 outside end sequence as defined by SEQ ID NO:5. Also disclosed are various systems and methods of using the Tnp mutants for *in vitro* or *in vivo* transposition.

QBMKE\5563812.1